DOCUMENT RESUME

ED 131 826 IR 004 160

TITLE	Educational Aids: Programmed Teaching and Motion Pictures (USSR).
INSTITUTION	Joint Publications Research Service, Washington, D.C.
REPORT NO	JPRS-23,679; OTS-64-21792
PUB DATE	13 Mar 64
NOTE	22p.; Archival document
EDRS PRICE	MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS	*Instructional Films; *Programed Instruction; Teaching Machines; *Teaching Methods
IDENTIFIERS	*USSR

ABSTRACT

Because traditional teaching methods in the Soviet Union do not provide feedback to the individual student and do not accommodate individual differences in pace and style, interest has been raised in programed instruction. If the proper steps are followed in the development of programed instruction materials, automated devices can be used to: test, tutor, train, inform and refer, and monitor. Algorithms may be linear or branching, and output devices can be simultaneously linked to audiovisual supports. Such technology and programs can facilitate the efficient instruction, evaluation, and remediation of large numbers of students. At the Moscow Pedagogical School No. 3, procedures were developed for the systematic use of motion pictures in the classroom setting. Film catalogs describe the contents of films so that teachers can make decisions on the most effective use of films in their instructional presentations. Students are given content questions to increase their interest in the films. Several examples of how films can be used to support the instructional process are provided. (EMH)

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JPRS: 23,679

OTS: 64-21792

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EDUCATIONAL AIDS:

PROGRAMMED TEACHING AND MOTION PICTURES

- USSR -

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OFFICE OF TECHNICAL SERVICES
JOINT PUBLICATIONS RESEARCH SERVICE
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Washington 25, D. C.

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[Following is a translation of two articles from the Russian-language periodical Srednyeye Spetsial'noye Obrazovaniye (Secondary Special Education), Vol 10, No 8, Moscow, 1963. Additional bibliographic information accompanies each article.]

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PROGRAMMED TEACHING

[Following is a translation of an article by Prof P.D. Lebedev, Doctor of Technical Sciences, in the Russian-language periodical Srednyeye Spetsial'noye Obrazovaniye (Secondary Special Education), Vol 10, No 8, Moscow, 1963, pp 23-30.]

In connection with the rapid development of science and engineering, there is an ever-increasing contradiction between the growth of the volume of knowledge needed by specialists and the low effectiveness of the process of teaching, under which it is becoming impossible to master a comprehensive academic program within the established periods.

The existing methods and organizational forms of teaching, which have remained until recently, it is possible to say, on the level of 300 years ago, can not solve this very complicated problem. When working with a group, the teacher must be guided by the so-called average pupil, which can not satisfy the weak pupils, or, even more so, the gifted pupils. The practical lack of feedback in the process of teaching is a great shortcoming. An instructor presenting a lecture does not have information about the thought processes of each student, and does not at all know how it is being grasped; consequently, he cannot effectively change its content. Too much time is spent on ineffective control of knowledge. Besides this, the instructor is not in a position to systematically and effectively control the students: they form erroneous

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methods of mental activity, and sometimes even incorrect ideas and concepts. Also characteristic is the insufficient and uneven independent work of the pupils. Many laboratory works are in essence conducted according to the brigade method. The textbooks and educational aids are often excessively cumbersome, since they contain a significant quantity of superfluous reference material, and the majority of pupils are prepared for examinations according to summaries only.

Under the existing organization of academic work, in the majority of cases both the gifted pupil and the backward pupil graduate from the technical school at the very same time, but the quality of training these specialists is not the same.

All of these depressing facts indicate that the necessity has presently arisen to eliminate the deficiencies of existing methods and organizational forms of teaching and search for new, more effective ones. In connection with this, there is a great deal of interest in the programmed method of teaching, which makes it possible to carry out an active, mass individualized educational process, to maintain effective control of the course of mastery of knowledge by the pupils, and presents the opportunity of utilizing the means of automation.

The programmed method of teaching is one of the ways of improving the educational process, facilitating and increasing the productivity of the labor of the instructors.

What is the essence of programming and what are its actual advantages?

Programming of each academic course must be preceded by definition of its purposes and tasks, and a precise indication of what the pupil should know, understand, and be able to do. Then the existing academic program is critically reviewed, considering that a given subject is a component of a complex of organically related disciplines, and problems that are repeated in other courses are eliminated.

The next step is the direct programming, the essence of which leads at first to an analysis of the logical system of the course and the exclusion of everything secondary, and then to separation of the basic topics (it is very important to establish a strict logical sequence of their study) and divisions, each of which represents one independent complex problem. Finally, the divisions are broken up into subdivisions. A subdivision contains the logically complete minimum dose of information, suitable for perception and mastery. It is concluded with a control

question, and after each division of the topic a complex question or problem is given, composed in such a way that the correct answer is possible only under the conditions of mastery of the material of this division or the whole topic. A programmed course, however, must be not the sum of individual theoretical problems and possible solutions: it must ensure synthesized, generalized knowledge of the subject.

The programmed material of the course makes it possible to create a programmed textbook and carry out the process of teaching with the utilization of various cybernetic devices, in which feedback is realized. Programmed teaching can be carried out both with the aid of teaching devices such as automats and machines, and without their aid, but with the use of textbooks, training aids, notebooks, and assignments composed according to the method of programming.

Programmed textbooks and training aids can be of especially great benefit to those taking correspondence courses. For experimental verification it is possible to permit programming of individual parts of academic courses (with the condition of development of a general logical system of the whole course) and compare the knowledge of the pupils who are taught according to the new method and according to the existing one.

Experimental programmed teaching with the utilization of machines and without them at the University of California in the USA has shown that the effectiveness is achieved not so much due to these machines, as due to the application of the method of programming itself. In all cases, students taught according to this method had much higher knowledge and mastered it in much shorter periods than students who were taught in the usual way. It does not follow, however, to belittle the role of automats and machines for programmed teaching, especially considering the prospects for the improvement and development both of these automatic devices and of the method itself.

General-purpose electronic computers, the simplest automats, can be used for programmed teaching. It is obvious that for the first stage of programmed teaching it is more rational to use the simplest automats, devices of small-scale automation, solving particular tasks of teaching.

Such devices can include:

a) devices for systematic control of knowledge and the conduct of examinations. These devices can be used for testing knowledge at oral examinations, before fulfillment of laboratory works, for controlling the results

of the solution of a number of mathematical, engineering, and other problems.

The use of the simplest automat in one of our vuzes [vyssheye uchebnoye zavedeniye; higher educational institution] permitted a two-fold reduction in the time for testing knowledge before fulfillment of laboratory works, whereby the student answered not two, but five questions, and the testing thus became more thorough;

b) tutors or devices for self-control and consolidation of knowledge and skills. They can be used, for example, for improving knowledge about rules of translation from a foreign language, and for self-supervision -- checking the results of the solution of a series of mathematical or of engineering problems, and so on;

c) operators or trainers -- devices for checking the correctness of the sequence of fulfilling operations in the limited period of time necessary for start-up or discovery of a fault in individual mechanisms, machines, and apparatus. With the aid of these devices, automatic performance of correct actions develops on the part of the learner. A considerable reduction in the time spent looking for faults is achieved if the operator (learner) keeps to a fully determined logical sequence of the operation, necessary for an effective search for faults.

These devices can be used successfully when training operators for automatic lines and other operator-specialists;

d) informers or consultants -- devices that provide information of a reference nature. Their application is limited at the present time since the memory capacity of the simplest devices is insufficient for fulfilling this task to the necessary degree;

e) automats for checking the accuracy of the formation of electrical engineering, radio engineering, thermal physical, and other circuits. These automats can render great assistance to the student and not permit overheating of costly tubes and instruments since before assembling, putting the circuit into operation, and conducting the necessary investigations for solving the academic problem posed, the student must study the accuracy of its composition on the automat. Here, instead of instruments and tubes, figures are used which designate individual elements of the circuit, and the automat indicates any irregularity of their connection.

There are also multi-cycle teaching devices which can fulfil combined functions (for example, examiner and consultant, examiner and tutor, and so on).

Devices of small-scale automation usually operate with an algorithm [see note] of a linear system of programming.

At the beginning the automatic device gives the first, the simplest question and if the learner answers correctly the automat proceeds to the following, more complex question, then to the third, and so on. If the learner answers incorrectly, the automat gives the correct answer with an explanation and lowers the general evaluation.

/Note/: In mathematical and other operations an algorithm is understood as the optimum method of solving a set task. In programmed teaching an algorithm is understood as the optimum logical system of studying a given problem, division, or even a whole course. At the present time, algorithm is still not finally defined as a term in programmed teaching.

Automated devices can be used with an algorithm for one or two degrees of ramification in which, for example, on each level, besides the correct answer with advice, there are channels of leading questions. If the student answered incorrectly, he receives a leading question. If this does not help, the automat gives the correct answer together with the necessary advice.

The more complex and expensive devices have algorithms of a ramified system of programming. Here the controlled questions are located as if along the horizontal and the vertical. For example, the questions, each of which relates to a corresponding subdivision of the program, are located along the vertical in a logical sequence. These questions are rather complex, and the answer to them is evidence of mastery of the subdivision. To each such question a number of questions are given according to decreasing complexity, as if located along the horizontal. If the learner did not answer the first complex question, the machine evaluates the degree of the error committed and gives an easier question, then another, and so on until the student can answer the very first question. After this the machine gives the second complex question, located along the vertical, etc. If the student cannot answer the easiest one, that is, he has shown a lack of elementary knowledge, the machine is turned off.

Under this system, the student who is well-trained and more gifted can confine himself to answers to only the five or six most difficult questions along the vertical, while the poorly trained or the student who does not understand must give correct answers to 25-30 questions.

The simplest controlling automats have a selective method of answers to the questions. For each question the automat offers three to five answers, one or two of which are correct. The student must select one of the answers. The shortcoming of this method is that the learner can

also remember incorrect answers and store them in his memory. The methodical justification of such an arrangement of questions and answers is also extremely debatable, especially since sometimes the correct answer, against a background of the ones that are "not bad," is direct prompting. Besides, a rather large number of control questions is necessary for objective evaluation of the student's knowledge.

In automats for programmed teaching, input of answers in the form of numbers, letter expressions or their combinations, or uncomplicated sound answers such as "yes" and "no," is therefore more perfect. These numbers and letter expressions can correspond to actual results of formulae and numerical results, or to a definite code, accepted for designating individual operations. Here is an example. For answers to questions along the radio engineering circuit, its individual elements and operations are designated by a digital cipher or code: tube L_1 -- 1, tube L_2 -- 2, condensor -- 3... open -- 13, closed -- 14, increase -- 15, decrease -- 16, and so on. The total number of digital designations for one circuit usually does not exceed 20. According to this circuit, the student is given a question: which tube is open and which is closed in the initial state? His answer -- tube L_1 is closed, tube L_2 is open -- is fed into the machine according to the designations, i.e., 1 -- 14 and 2 -- 13.

The usual form of both the control question as well as the student's answer is effective during control of knowledge. However, answers expressed in an arbitrary form cannot even be fed into general-purpose modern electronic machines. They need to be formulated into a simplified conventional language, where one word or sentence serves as an order for the automat to complete a series of operations.

A direct connection -- of the question of the automat to the student -- can be realized by output devices that act upon the organs of sight (slide projectors, code cards, color charts, etc.), the organs of hearing (tape recorders) or combined effects by means of, for example, a video tape-recorder, television set, etc.

Automats can have a time relay and switch off if the student does not answer the question or does not solve the problems in the established period. They can establish an evaluation according to a five-point system, "pass" or "not pass," mark correct and incorrect operations by a light signal, and so on. They can be used as individual automatic devices and as attachments to general-purpose electronic computers, in which programs for several courses

can be established. Automats make it possible to rapidly change questions and codes of answers and do not permit deviations from the rules of using them; if during an incorrect answer the student, not waiting for the prompting, leading question, or advice which reduce the total evaluation, attempts to introduce a new and, in his opinion, correct answer, the automat immediately switches off.

The simplest automats can provide the possibility of only individual instruction or instruction of very small groups.

The most complete principle of programmed teaching can be realized with the use of digital electronic computers. If certain equipment is added to them, including equipment for enlarging the memory, it is possible to simultaneously teach a large number of students (300-900), and consider their individual capabilities.

It is possible to put programs for several courses in general-purpose digital electronic machines and introduce a more thorough system of algorithms, using ramified programs.

In a number of higher educational institutions and certain technical schools there are teaching machines which can be used even now for conducting experimental courses on methods of programmed teaching of individual subjects or their divisions. This does not require any significant expenditures.

With the aid of the simplest automatic machines it is possible to check only the current progress of the students, that is, the knowledge of individual topics and small divisions of a course, preparation for laboratory works, and so on. These automats cannot, however, provide a qualitative examination on the whole course. They permit only stereotyped answers and cannot evaluate voluntary, meaningful answers by the most gifted students; they also cannot catch all of the subtleties and degrees of errors, or establish why an incorrect answer was given. These and other similar questions are still unsolved for automats and teaching machines.

The simplest automats do not make great changes in the educational process, but they lighten the work of the instructor and give very valuable data for the subsequent development and application of the method of programming.

The utilization of even the simplest automatic devices makes it possible to rapidly detect and eliminate the deficiencies of the accepted algorithms and the programming of the course, to eliminate subjectivism in methodical work, and makes it possible to accumulate and process statistical information about the regularities of

the students' perception and mastery of information. Combined with psychophysiological research, this data, necessary for the development of pedagogical science, makes it possible to establish the best conditions of mastering knowledge by the human brain, and to establish the criteria that determine the optimum of the algorithms accepted for programming.

It should be noted that automats, as a rule, are very costly. Therefore, their use in the educational process in the necessary quantity is not very probable in the near future. Besides this, they are still not perfected and do not satisfy the strict requirements of the methods of verifying knowledge. There are therefore great prospects for operative control of the knowledge of students by the programming method with the aid of questionnaires and punch cards.

The input of composed punch cards into the machine favors a significant saving of machine time, and in this case it is possible to manage with a smaller number of automats.

In such a method, all the principles of programmed teaching are kept, but it has certain peculiarities. Different variants are possible here. We will dwell on one of them. There is a textbook for the course to be studied. The instructor divides all the material into separate topics (divisions), and gives methodical instructions on how to study two to four lessons according to the textbook; he dwells on the most important and difficult problems, proposing that the remaining ones be mastered according to the book. After study of the topic (division), control of the knowledge obtained is organized in the course of one school hour. The instructor compiles, depending on the size of the groups, several variations of questions (it is desirable to divide a group consisting of 25-30 students into two sub-groups). A student who receives an unsatisfactory evaluation must repeat the material, and in the following control lesson or at another time, indicated by the instructor, fill out a new card of answers. The instructor must analyze each control work, and inform the student of his observations.

For each variant the instructor prepares 15-20 control questions, compiled in the strict logical order of the studied topic. Correct answers to them must indicate that the given material is mastered. The questions are entered on individual sheets and distributed to the group. These sheets and special cards for the answers are made up according to the number of students. The answers can be given by various methods.

For example, the student selects one of the answers to a given question (selective method). In this case he must put a cross on the card in the squares a, b, or c, which correspond to the suggested answers. If it is required to give a relative evaluation of some machines and apparatuses according to their advantage, then the answer written on the card can be in the form of the accepted designations of these drawings, 2134. If the card is checked by the instructor, it is possible to write simple formulae, or scales of physical or chemical values on them which the student must memorize. The different method of answers to the questions is the great advantage of the given variant. If the majority of students do not answer one question or another, it follows to attribute this to shortcomings of the textbooks or the teaching, and not consider it when determining the over-all evaluation. But an obscure question should be explained at the next lesson.

Checking of the correct answers on the cards is done very rapidly by means of superimposing punch cards made of Plexiglas, which have punch-holes for the correct answers. This does not take more than one minute. Such verification of knowledge can also be carried out by the machine. The student feeds these answers into the machine and receives an evaluation and indications of mistakes made.

This method compels the student to systematically study the given discipline.

Composition of the questions and selection of the method of response, satisfying the strict requirements of the method of instruction, are very complex matters and demand detailed analysis, study, and discussion. This is very labor-consuming but exceptionally useful work for the instructor, since he obtains a great deal of information about the perception of knowledge by the students, and also about errors in his methods.

Complex questions can be composed with the inclusion of leading ones. We will introduce the simplest example.

First question. Which specific gravity is greater: a) that of cold air, or b) that of hot air?

Second question. From an examination of the formula $N=(Qv/102\eta_{\text{в}})\gamma$ ascertain -- a large expenditure of electrical energy on the blower driving gear requires a kilowatt for the displacement of what kind of air: a) cold, or b) hot?

Third question. Where should the blower be installed when displacing air through the heat exchanger: a) on the side of the hot air, or b) on the side of the cold air?

It is possible not only to control, but also to

teach with such a system of questions.

The stated method does not solve all of the problems. In a number of cases it is necessary to check how the student is able to solve individual problems, describe diagrams, and so on. Other practical lessons can therefore be conducted besides lectures with methodical instructions and the control lessons. In this method it is originally possible to switch only individual topics or divisions of a course and gradually accumulate the necessary experience, and work out technical conditions for the purpose of creating more perfect automats for the control of knowledge.

During programmed teaching, all of the best aspects of the modern method of teaching must be utilized, that is, it is necessary to preserve seminar studies, laboratory and course work, homework, diploma projects, and other works which develop the creative capabilities of youth.

Programmed teaching is not in contradiction with the works and instructions of our leading pedagogues, and its practical application yields a great deal of material for further improving methods of teaching. There is no need to prove how important high-quality programs, programmed textbooks, and educational aids are for this teaching. The authors of the educational literature can, of course, be individual instructors, but here the collective efforts of scientists are also very important. Indeed, a programmed course must answer the requirements not only of scientific and methodical content, but also mathematical logic, psychology, and so on.

The successful development of programmed teaching is possible only under the condition that scientific-research work in this field will be conducted by scientists of various branches of knowledge: teachers and methods specialists, psychologists, specialists in biological electronics, philosophy, and also specialists in mathematical logic, in automation and computers, and so on.

The method of programmed teaching should be introduced and developed along with other forms of improving the educational process, along with expansion of the use of films, television, radio, tape recorders, etc.

With the subsequent introduction of programmed teaching, lectures should be reduced. They will contain only the logical disclosure of basic concepts, laws, and especially complex debatable and new questions of the studied discipline, and also methodical instructions for independent study of the subject. There will be an increase in independent work by youth on teaching devices, automats, and machines, and the role of laboratory practical work, studies at home, and all other types of independent work

will also increase.

During programmed teaching, the functions of the instructor change. He will be freed from routine, non-creative work of checking control works, home assignments, and in the future, also from practical lessons. His activity in the lesson will consist in creative organization of the educational process, rendering daily operative assistance to the students with tutorials, and also in training work, since no machine can fulfill all of these functions.

During programmed teaching, the instructor's level of knowledge must significantly increase, since he is obliged to faultlessly solve all of the problems put into the machine himself, and provide skilled advice on all of the problems of the programmed textbooks and educational aids.

At the present time it is early to speak about the extensive introduction of programmed teaching in the system of education, since it is in the first phase of its development. It is, however, very much the right time for complex scientific-research work on programmed teaching in a number of vuzes and secondary special educational institutions of our country for the solution of many debatable and very vague problems.

The Scientific Council on Cybernetics of the Academy of Sciences USSR, under the leadership of Academician A.I. Berg, has discussed prospects of the use of programmed teaching in the system of education in the USSR, and has outlined the basic paths of its development. The boards of the Ministries of Higher and Secondary Special Education of the USSR and the RSFSR and the State Committee of the USSR For Coordination of Scientific Research have outlined a large program of experimental research in the field of programmed teaching and have recognized the important national significance of the development of programmed teaching.

It is now planned to organize a Scientific Council for the Development and Introduction of Programmed Teaching attached to the Ministry of Higher and Secondary Special Education of the USSR. This council will coordinate all scientific research work in this field and establish corresponding main organizations according to the lines of the secondary and higher schools and the scientific institutions of the country. Many vuzes, certain technical schools, scientific institutions of the academies of sciences, and other organizations will be drawn into this work. It is planned to conduct a large diverse program of experimental and design scientific research works

in the field of programmed teaching, methods of thinking, and mastery of labor skills.

For the purpose of effective development of scientific-research works on programmed teaching, an All-Union conference is planned, as well as the participation of Soviet scientists at an International Congress on these problems.

At the present time it is necessary to organize complex scientific-research works on programmed teaching not only in vuzes, but also in the best technical schools of our country, and in the near future to create programmed textbooks and educational aids which will make it possible to test the effectiveness of this new method in practice.

It is also necessary to select the best designs of teaching automatic machines, centralize their manufacture, and, for an objective evaluation, study their use in various educational institutions.

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METHODS OF USING MOTION PICTURES IN THE EDUCATIONAL PROCESS

[Following is a translation of an article by A.O. Berkovskiy, an instructor at Moscow Pedagogical School No. 3, in the Russian-language periodical Srednyeye Spetsial'noye Obrazovaniye (Secondary Special Education), Vol 10, No 8, Moscow, 1963, pp 34-38.]

A movie presents the possibility of observing the phenomena studied in natural surroundings. As experience shows, with proper utilization of movies they reduce the time necessary for mastering knowledge.

In our school, conditions were established for systematic utilization of motion pictures in the lesson. Two academic lecture-halls were equipped with the "Ukraina" and "Shkol'nik" movie cameras, screens, moveable blinds, and plug sockets. Insofar as 35 percent of the educational and popular science films are issued on wide film only, we acquired the KN-12 wide-film movie camera.

In the staff room they installed a small stand on which they hung catalogues of educational and popular science films, lists of newly issued films, basic requirements for the organization and conduct of filmed lessons, method materials on ways for the instructor to work with a film in a lesson, summaries of filmed lessons conducted in our school, and the best works of students (reports that accompany the showing of a movie, reviews of films seen, control works evidencing the thorough knowledge gained as a result of using movie aids).

At the pedagogical council the head of the academic

section presented a report on the role of the motion picture in educational and training work. Then they viewed and discussed the instructive-methodical film, "The Physics Lesson in the Secondary School," showing the preparation and conduct of a filmed lesson. It was agreed that in their semester plans all of the instructors will indicate topics that can be illustrated by film aids.

For greater efficiency and convenience the instructors do not compile orders for films, but fill out schedules of conducting lessons with the use of movies, where the day, hours (first, second, or third), name of the film, course, and group are indicated. This is done every two weeks in the staff room.

According to the schedule, the laboratory assistant and film demonstrator orders, in the film library or the office of the film lending service, the films and assembly sheets which the instructor becomes familiar with when preparing for the lesson. Assembly sheets are issued for each film. The enumeration and content of the frames is given on the left section of the sheet, and the announcer's text is on the right.

With several examples we will show how our instructors work with motion pictures.

Using the catalogue, history teacher N.G. Polkovnikova carefully selects films for all topics and, having included them in the semester plan, puts them in the schedule. For preliminary familiarization with the content of the film, she uses the assembly sheet, and then looks at the film. Having studied the content of the film and determined its place in the lesson, the teacher compiles the plan of the lesson and selects questions for which the pupils must find answers during the showing. Thus, in a two-hour lesson, the task of which was to disclose the historical significance of the first Russian revolution, N.G. Polkovnikova used the screen play "The Year 1905." There are three parts to the film. The lesson began with an introductory discussion. The instructor stated the topic, the aim of the lesson, gave a general description of the second period of the first Russian revolution -- the period of retreat -- and proceeded to a repetition of the whole topic in the material of the film "The Year 1905." The students wrote down the questions to the first part of the film: the causes of the first Russian revolution, V.I. Lenin on the significance of 9 January 1905, the historical importance of the III Party Congress, and others.

A discussion of these questions was held after the showing. The showing of the second and third parts of the film was organized in the same way. The discussion of

these parts led the pupils to a conclusion about the historical significance of the first Russian revolution. Then the teacher assigned homework.

N.G. Polkovnikova feels that it is necessary to pose the questions to the students before showing the film since this forces them to be especially attentive to the lesson, think about what they see, and, consequently, understand the program material better.

Thus, in principle the filmed lesson was no different from a usual one, that is, there was an explanation of the new material, questioning of the pupils, consolidation, homework, and the film was organically linked with the lesson. Subject commissions and the exchange of visits to filmed lessons play a great part in the study of the films by the instructors and in the propagation of the best experience of their use.

At the regular meeting of the subject commission of pedagogy and psychology on 12 October 1962, for example, the following new films, on the topic "Upbringing of Children in the Family," were reviewed and discussed: "Having Once Told A Lie," "Papa or Mama," "They Did Not Learn Anything Bad," and "The Positive Girl." The head of the academic section and 12 instructors attended the review. The exchange of opinions on the films viewed and the methods of using them in the lesson was very beneficial.

After the discussion, pedagogics teacher B.R. Borshchanskaya, leader of this subject commission, and very experienced in the use of motion pictures in lessons, invited all of the instructors to one of her lessons on the topic "Conditions of Successful Upbringing of Children in the Family," at which one of the films viewed, "Papa or Mama," was utilized. It was shown in the film how the lack of united demands of the son from the mother and father led to the son growing up as an egoist, an idler and a loafer, unadapted to life.

The purpose of the lesson was not only to consolidate theoretical knowledge on the topic, but also to learn to utilize visual means of pedagogical propaganda, to analyze and review motion pictures.

In preparing for the lesson, the teacher reviewed the film, made arrangements with the projectionist about where to interrupt the demonstration, and composed questions which were put on the blackboard before the showing of the film. The lesson began with a short discussion of the questions: what topic do we study according to pedagogics? What problems of this topic have you studied? Of what importance is the use of visual aids in work with parents?

In her introductory remarks, B.R. Borshchanskaya said:

-- Among the conditions for successful upbringing of children in the family, an important place is occupied by a united approach of the adults, the parents, in relation to the child, and the authority of the parents.

One of the typical mistakes made by parents in the upbringing of children, especially young ones, is an incorrect relation to them, unreasonable, unexacting love. These and a number of other important problems of family education are raised in the film "Papa or Mama."

Insofar as the creators of the film succeeded in raising and solving the problem of family education, what benefit will this film bring to parents, how can it be used in work with parents -- you must answer these and other questions (written on the blackboard) after viewing the film.

It is necessary to view the film purposefully, from the position of pedagogics. This will make it possible to analyze it correctly and compose a review.

Viewing of the film will help you to use film aids in the future as a form of teaching propaganda, and, perhaps, it will bring forth a desire to take part in the creation of such films.

Carefully read the questions which you must answer after viewing the film.

The students read: to what problems of family education is the film devoted? What is the general tenor, the style of the life of the family shown in the film? How can the parents be described? What are the conditions for education in the given family? Why is the film called "Papa or Mama?" What are the mistakes of the parents shown here in the upbringing of the son? Where is the father right and wrong? Is the father an example for the son? Where is there a difference of opinion between the father and mother in questions of educating the son? How is the child's labor education carried out? What can be said about the love for the child in this family? What personality traits will form in the child as a result of such a system of upbringing? What is the value of the film as a means of pedagogical propaganda? How can this film be utilized in work with parents?

After the demonstration of the film and the discussion of the questions, the teacher draws a conclusion:

-- The motion picture "Papa or Mama" raises topical, urgent questions of family education; it helps parents to see their errors and blunders, to understand their causes. The task of pedagogues is to help parents to find a way to prevent similar errors, to teach them how it is possible

to correct the line of their behavior in relation to the child, and how to establish the correct system, the style of education in the family.

It is necessary to use this and other similar films in order to arouse the interest of parents and cultivate a taste for pedagogical knowledge, a desire to master it, and to develop a responsible attitude on the part of parents to the education of their children, as to a matter of great public significance.

This completed the first hour of the lesson. The second hour was devoted to written work -- to composition of a review of the film. In the reviews, the students were to give an evaluation, a brief analysis of the film (it could also be critical); tell about the possibilities and methods of utilizing the film in work with parents; state their opinions and suggestions in regard to movies as a means of pedagogical propaganda.

The instructors who attended the lesson utilized this film in different ways. If B.R. Borshchanskaya used the film for consolidating what had been done, then, for example, teacher S.G. Mayevskaya used it in a lesson when studying new material.

The lesson began with a viewing of the motion picture, the questions to which were previously written on the blackboard: what can this film be called? What problems are raised in this film? Are such phenomena typical? What topic will we begin to study?

Having suggested that the students find the answers to these questions in the film itself, S.G. Mayevskaya immediately started the demonstration, without showing the title of the film, stating the topic, or writing down the plan.

After the viewing, a discussion was held and the topic and plan were written down:

1. The role of the family in the upbringing of children.
2. The unity of family and public education.
3. The difficulties and errors of parents in the upbringing of children.
4. The conditions of correct family education.

The first two points of the plan were then taken up on the basis of the material of the film. Before disclosing the third point of the plan, the film was viewed a second time. During this the light was partially on in the auditorium so that during the demonstration the students could record what errors Vova's parents permitted in his education. After the viewing several entries were read, supplemented, and analyzed. S.G. Mayevskaya then indicated

how to independently find the answer to the fourth question of the plan in the literature. As we see, the teacher contributed something new to the method of working with a film.

Movies are also very important for extra-curricular work. Popular science, current events, and documentary films on various problems are now issued in large quantity and distributed at a reduced cost, 10 kopeks per part, in film lending service offices for free showing to students.

These films can be used successfully at class meetings for illustrating lectures on athiestic propatanda, esthetical education, in the work of clubs, etc.

For example, at a class meeting on the subject "The Future Begins Today," class leader N.G. Polkovnikova, telling about brigades of communist labor, about mass labor heroism as one of the most characteristic features of our society, used the film "One Family" for illustration. This film clearly reveals both the working days and the holidays of the collective of girls of a sewing factory in the city of Tiraspol'. The wonderful manner of production innovator Valentina Kartashevaya, and the good, friendly factory family shown in the film convince one that it is necessary to live not just for one's self.

Popular science films are used successfully by the students during teaching practice, for illustrating lectures at parents' meetings, and in work with children.

Here is one example.

Student Babushkina used the film "Papa or Mama" to illustrate her report at a parents' meeting on 12 October 1962. She was practice teaching in kindergarten No. 612. The parents followed the passing frames of the film with bated breath. The discussion of the film was also lively: there were both tears and enthusiasm, and deprecative exclamations addressed to the creators of the film for showing only the negative side. Everyone left very satisfied with the meeting.

Our experience in this work shows that the teachers can master the most rational methods of using films in the educational process if they regularly see and discuss new films in subject commissions; if open filmed lessons are organized in the technical school; if pedagogical councils are held devoted to the status of using motion pictures in the educational process, along with the organization of reports by individual teachers who are creatively utilizing movies in their work.

The systematic and effective use of movies in the educational process is possible only with the presence of the following in the educational institution:

a) movie-rooms equipped with the "Ukraina," "Shkol'-nik," and "KN-12" sound movie cameras, screens, moveable blinds, desk lamps with shades so that the students can write when the film is being shown, and a signal system from the teacher's desk to the operator's booth;

b) a laboratory assistant who has a projectionist's license.

As experience shows, with the absence of these conditions motion pictures are used in lessons by the instructors only sporadically, in an insignificant quantity, and not effectively enough.

So that all teachers will have the opportunity of regularly using movies in lessons and in extra-curricular work, it is necessary to set up movie-rooms in the technical schools; provide for the position of a senior laboratory assistant for work with film-projection apparatus; issue fragmentary and assembled films for technical schools and colleges, using available material gathered for vuzes and popular science films; compile a list of films available in vuzes and compel vuzes to supply them to nearby technical schools; allow technical schools to utilize the fund of educational films of oblast and rayon film libraries; include in the educational programs lists of films that are required for use in lessons; add new titles to the lists of artistic films that have a relationship to the educational programs, for free showing to students.

The educational institutions must be aided in the solution of all of these problems by the ministries and committees of higher and secondary special education of the Union and the union republics, and also by the ministries, departments, and sovnarkhozes to which the technical schools are subordinated.

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